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Highlights of Dairy 2007 Part V: Changes in Dairy Cattle Health and Management Practices in the United States, 1996–2007

In 2007, the National Animal Health Monitoring System (NAHMS) conducted a study of U.S. dairy operations. The Dairy 2007 study collected data on dairy health and management practices from 17 of the Nation's major dairy States.* These States represented 79.5 percent of U.S. dairy operations and 82.5 percent of U.S. dairy cows. The operations were divided into 3 herd-size categories based on the number of milk cows present: small (fewer than 100 cows), medium (100 to 499 cows), and large (500 or more cows).

The following highlights were excerpted from the report Dairy 2007 Part V: Changes in Dairy Cattle Health and Management Practices in the United States, 2007. Released in July 2009, Part V identifies changes in the dairy industry from 1996 to 2007, and specifically addresses changes identified from three NAHMS dairy studies: Dairy 1996, Dairy 2002, and Dairy 2007.

Disease familiarity and biosecurity practices

- The percentage of operations fairly knowledgeable about Johne's disease, *Mycoplasma* mastitis, and HBS increased from 2002 to 2007. However, the majority of producers were unfamiliar with heartwater, screwworm, bluetongue, vesicular stomatitis, and hemorrhagic bowel syndrome
- Most producers in 2002 and 2007 indicated they would contact their private veterinarian for disease information if a foreign animal disease outbreak occurred in the United States.
- Almost all producers in 2002 and 2007 (97.9 and 98.6 percent, respectively) would contact their private veterinarian if they suspected that an animal on their operation had a foreign animal disease.
- The percentage of operations that had employees increased from 47.2 percent in 2002 to 75.7 percent in 2007. The percentage of small operations with employees doubled from 32.2 percent in 2002 to 65.6 percent in 2007.

* States

California, Idaho, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, New Mexico, New York, Ohio, Pennsylvania, Texas, Vermont, Virginia, Washington, and Wisconsin

- The majority of operations maintained a closed herd during 2002 and 2007. Nearly one-half of all operations limited cattle contact with other livestock, elk, and deer, and controlled access to feed by other livestock and wildlife, or had a closed herd.
- The percentage of operations participating in a Johne's disease control or certification program has increased for each herd size category and for all operations since 1996. Less than 1 percent of operations participated in a Johne's disease control or certification program in 1996 compared with 11.2 percent in 2002 and 31.7 percent in 2007.
- The percentage of operations that tested for Johne's disease increased across herd sizes from 1996 to 2002 and for all operations from 1996 to 2007; 13.1 percent of operations tested for Johne's in 1996, 25.7 percent tested in 2002, and 35.3 percent tested in 2007.

General management

- Overall, the percentage of operations that used concrete as the predominate flooring type for cattle decreased from 85.8 percent in 2002 to 51.1 percent in 2007.
- The use of any milk urea nitrogen testing increased from 22.3 percent of operations in 2002 to 49.8 percent in 2007.

Milk quality and milking procedures

- The percentage of operations that forestripped all cows increased from 44.5 percent in 2002 to 58.9 percent in 2007.
- Iodophors were the predominant predip and postdip compounds used during summer and winter in 2002 and 2007.
- The percentage of operations in which milkers wore gloves to milk all cows increased from 32.9 percent in 2002 to 55.2 percent in 2007. The percentage of cows on operations in which milkers wore gloves increased from 48.7 in 2002 to 76.8 percent in 2007.
- Although there were no changes by herd size from 2002 to 2007 in the percentage of operations that used automatic takeoffs, the percentage of all operations increased from 36.0 percent in 2002 to 45.4 percent in 2007.
- In 2002 and 2007, about 4 of 10 operations vaccinated for coliform mastitis and about 1 of 10 vaccinated for *Salmonella*.



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- More than 8 of 10 cows in 2002 and 2007 were on operations that dry treated 100.0 percent of cows.

Antibiotic use

- A higher percentage of preweaned heifers were affected with diarrhea or other digestive problem in 2007 (23.9 percent) compared with 2002 (15.3 percent).
- Excluding ionophores, antibiotic use in weaned heifer rations remained the same between 2002 and 2007.
- Respiratory disease was the most common disease or disorder affecting weaned heifers; however, the percentage of weaned heifers affected was less than 6 percent during 2002 and 2007.
- The percentage of cows affected with a specific disease and treated with antibiotics did not change between 2002 and 2007.
- For mastitis treatment, the percentage of operations that used cephalosporin increased from 2002 to 2007 (33.3 and 44.5 percent, respectively), while the use of noncephalosporin beta-lactam and macrolide antibiotics to treat mastitis decreased from 2002 to 2007.

Surgical procedures

- In 2007, 94.0 percent of operations still dehorned calves. The percentage of large operations that dehorned calves decreased from 88.9 percent in 1996 to 64.3 percent in 2007, which might be due to the increase in operations that have calves raised off-site.
- The use of hot iron/electric dehorner increased from 40.2 percent of operations in 1996 to 64.4 percent in 2007. In contrast, the use of tube, spoon, or gouge, and saws, wire, or Barnes dehorner decreased by about one-half in the same period.
- About one-half of operations tail-docked cows in 2002 and 2007.

Hoof health

- The percentage of operations with cases of lameness in bred heifers increased from 36.5 percent in 2002 to 58.7 percent in 2007.
- From 1996 to 2007, almost all operations had at least 1.0 percent of cows affected by lameness during the previous 12 months.
- Between 1996 and 2007, the percentage of operations that used footbaths for cows throughout the year increased from 13.6 percent to 20.3 percent.
- Hoof trimming increased from 75.9 percent of operations in 1996 to 84.8 percent in 2007.

Nutrient management

- There were no changes between 2002 and 2007 in methods used to handle the majority of manure in weaned-heifer housing or cow housing areas. In weaned-heifer housing, more than 9 percent of operations left manure on pasture, scraped the drylot, used a gutter cleaner, alley scraper, or bedded pack to handle the majority of manure. In cow-housing areas, gutter cleaners or alley scrapers were used by more than 30 percent of operations as the method or handling the majority of manure.
- The only change in the use of waste-storage or treatment systems between 2002 and 2007 was the increase in the percentage of operations that used compost (4.3 and 11.1 percent, respectively).
- Between 1996 and 2007, approximately 9 of 10 operations used a broadcast/solid spreader to apply manure to land. The percentage of operations that used surface application of liquid manure increased each study year. The percentage of operations that used subsurface application of liquid manure increased from 4.3 percent in 1996 to 8.8 percent in 2007.

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